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THE UNIVERSITY OF ALBERTA STAFF BULLETIN

EDMONTON, ALBERTA

APRIL 24, 1973

## Letter From Minister of Advanced Education

## Operating Grants For Universities 1973-74 to 1975-76

December 27, 1972.

Preliminary Draft

Department of Advanced Education

December 27, 1972

Mr. Haughton G. Thomson,  
Chairman,  
The Alberta Universities Commission,  
202 Sir John Franklin,  
11111 - 87 Avenue,  
Edmonton, Alberta.

Dear Mr. Thomson:

Attached is a preliminary draft of a three-year operating grants scheme for universities embodying many of the suggestions made by the Universities Commission and by the institutions themselves.

I would appreciate your now distributing these materials for study and comment to the members of the Commission, as well as to the Board of Governors of each institution affected, so that their observations may be considered and synthesized for transmittal to me immediately following the January 22nd meeting of the Universities Commission.

It is my intention to have a scheme such as this ratified by the Executive Council on January 30th. It is my hope that the amount of the 1974-75 formula operating grants for the four universities and the Banff Centre will also be set at that time. By proceeding on this schedule, each of the institutions will be in a better position to begin in 1973-74 the adjustments in programs, services and staffing arrangements necessitated by shifting enrolments and changing priorities.

Yours truly,  
James L. Foster,  
Minister.

This three-year operating grants scheme is intended to provide the four universities and the Banff Centre with the lead time necessary for effective and efficient planning. Such planning requires a reassessment of each institution's essential and relatively unique contributions to the life of the province and to the broader community, with appropriate adjustments in programs, services and staffing arrangements to ensure wise and prudent use of resources.

### A. BASIC GUIDELINES

1. Fixed grants will be established for two years rather than the current one year. To ensure a measure of fiscal certainty for both the institutions and the government, these grants will not be changed should actual enrolments in the first year of the scheme be different from those forecast. Appropriate adjustments will be made in the third year.
2. There will continue to be a distinction made between formula and non-formula grants.
3. The formula grant will be based on enrolment units rather than full-time or full-time equivalent students.
4. A 6% per year inflation factor for expenditures per enrolment unit will be adopted.
5. By 1975-76, the formula expenditures for the university system will be back on "Commission formula", i.e. formula expenditures of \$1,640 per enrolment unit in 1972-73 dollars.
6. Formula grants greater than those produced by the "Commission formula" will be provided in 1973-74 and 1974-75 only.
7. The amount of the "above-formula" grant for 1974-75 will be one-half the "above-formula" grant included in the \$99.4 million to be recommended to provincial legislature for 1973-74.
8. Should student fees be increased, the amount of the yearly grant will be reduced accordingly.

9. Up to \$7 million in non-formula grants will be provided in 1974-75 and again in 1975-76. It is anticipated that the total share of the non-formula grants going to community or public service, Athabasca University and the Banff Centre will increase while the total share going to emergent faculties or programs and the special allowance for the University of Lethbridge will decrease.

10. Beginning in 1974-75, there will be established an Advanced Education Opportunity Fund, amounting to approximately 2% of the Department's annual operating budget, for the purpose of stimulating improvement and innovation in the education of adults by universities, colleges, institutes, AVTC's, and other agencies of higher and further education.

11. The feasibility of changing the fiscal year for the universities and the Banff Centre to July 1 - June 30 will be examined with a view to modification in 1974-75.

12. Beginning in fiscal 1974-75, grants will be paid on a monthly basis over twelve months rather than over nine months as at present. Initially, the grant level will be adjusted to compensate the universities for lost interest income.

### B. OUTLINE OF SCHEME

1. By January 24, 1973, the Universities Commission, after consultation with the universities, will provide the Department of Advanced Education with its best estimate of full-time students and total enrolments units for 1974-75.

2. By February 1, 1973, the Department will advise the Commission of the fixed formula grant (excluding any adjustments necessary for a change in fiscal year) for 1974-75. A similar procedure will be followed in subsequent years so that each university will know the amount of the formula grant it will be receiving two years in advance.

The 1974-75 formula grant (excluding any adjustment for a change in fiscal year) will be composed of two components—the amount

determined by the "Commission formula" (with an adjustment for lost interest) and the "above-formula" grant which will be one-half of what it is for 1973-74.

3. By January 24, 1973, the Commission, after consultation with the universities and the Banff Centre, will provide the Department with its assessment of the problems to be encountered if the fiscal year is changed, along with the impact, if any, on the operating grant levels occasioned by such a change.

4. By February 15, 1973, the universities and the Banff Centre will forward to the Department, through the Commission, their requests for non-formula grants for 1974-75. The allocation of non-formula grants for 1974-75 will be completed within thirty days.

The timing of requests and allocations for non-formula grants for 1974-75 will be determined at a later date.

#### C. SAMPLE CALCULATIONS

The calculations that follow are intended to illustrate the application of the foregoing when four assumptions are made:

1. There will be no increase in fees over the period.
2. No adjustment will be made for a possible change in fiscal year.
3. The formula grant for 1973-74 will be \$92.5 million.
4. Projected full-time enrolments and total enrolment units for the three years will be:

<i>Year</i>	<i>Full-Time Enrolments</i>	<i>Total Enrolment Units</i>
1973-74	27,500	58,850
1974-75	26,600	57,400
1975-76	26,600	57,600

1973-74—formula grant	\$000,000
Formula expenditures using "Commission formula"	\$102.3*
Less: Estimated tuition	13.8
Estimated other income	1.8
Formula grant using "Commission formula"	\$86.7
Add: "Above-formula" grant for 1973-74	5.8
Total formula grant for 1973-74	\$92.5

$$*1640 \times 1.06 \times 58.850$$

1974-75—formula grant	\$000,000
Formula expenditures using "Commission formula"	\$105.8*
Less: Estimated tuition	13.3
Estimated other income	0.5
Formula grant using "Commission formula"	\$92.0
Add: "Above-formula" grant for 1974-75	2.9
Total formula grant for 1974-75	\$94.9

$$*1640 \times (1.06)^2 \times 57,400$$

1975-76—formula grant	\$000,000
Formula expenditures using "Commission formula"	\$112.5*
Less: Estimated tuition	13.3
Estimated other income	0.5
Total formula grant for 1975-76	\$98.7

$$*1640 \times (1.06)^3 \times 57,600$$

<i>Summary</i>	<i>Formula Grant</i>	<i>Non-Formula Grant</i>	<i>Total Grant*</i>
1973-74	\$ 92.5	\$ 6.9	\$ 99.4
1974-75	\$ 94.9	\$ 7.0	\$101.9
1975-76	\$ 98.7	\$ 7.0	\$105.7
Total	\$286.1	\$20.9	\$307.0

\*Not including support from Advanced Education Opportunity Fund.

## A Reply from Dr. M. Wyman on behalf of The Universities of Alberta

March 2, 1973

The Honourable J. L. Foster,  
Minister of Advanced Education,  
Legislative Building,  
Edmonton, Alberta.

Dear Mr. Foster:

As requested by Dr. W. H. Worth, the four universities in Alberta have prepared material which they would like to discuss with you

on March 12, 1973. As we understand it, the main purpose of the meeting is to seek agreement about financing for 1974-75 and 1975-76 and to lay the groundwork of a policy for the long-range financing of the Universities in Alberta. The attached brief attempts to accomplish these goals. In summary, the major recommendations of the report are as follows:

1. That the inflation rate used in calculating university formula grants be determined by the percentage increase in the "All-items consumer price index for Canada" from July 1

to June 30 for the period preceding by two years the university fiscal period to which it has to apply.

2. That, in addition to the inflationary changes, the expenditure index be allowed to change by a so-called plus factor, p, which will provide for two things: first, that people who work in universities may realize an expectation to obtain real dollar increases in their salaries when justified by real dollar increases in the economy of Canada; and secondly, that university costs may rise as a

result of changes in the nature or quality of the functions performed for society.

3. That the plus factor, p, of the 1960's be cut by no more than 25%, and that it be fixed at 2.7%, or higher, for the next two or three years.

4. (a) That "other income" not appear in calculations involved in calculating Government grants to the university system;

(b) That the method of payment used in the past to pay the Government grant to the university system remain as in the past; and

(c) That 1972-73 be considered as the base year and the expenditure index be set for that year as:

(i) \$1,650 per enrolment unit for The University of Alberta

(ii) \$1,670 per enrolment unit for the University of Calgary

5. That, in the first instance, all calculations be made in the dollars of the base year.

6. That once the total expenditures of the university system have been calculated, the formula grant of the Government should be given on the understanding that it will not be changed as long as enrolment units do not

increase or decrease by more than 7.5%; if actual enrolment units are outside this range, measures will be introduced to allow a university to proceed to a higher or a lower plateau. The University of Calgary believes the enrolment tolerance should be 5%.

7. That for the years 1973-74 and 1974-75, an assumption of "no growth" be made for the university system.

8. That if an "above-formula" grant is given for certain reasons it should not be reduced until the reasons for the grant no longer hold true; when these reasons cease to be valid then the grant should be reduced by approximately equal amounts over a period of five years.

9. That when the Government approves a new program at an existing institution, or a major expansion of an established program at an existing institution, or a new university, then an estimate should be made of the number of enrolment units involved when the new or expanded facility becomes fully operative; a value to the expenditure index should be assigned and the total Government support for the fully operative facility should thus be determined. That a major study of the support for the public service functions of

universities and colleges be undertaken as soon as possible.

10. That until suitable weights are assigned for enrolments for all new programs, the present non-formula grant be treated as if it were part of the formula grant; it should be allowed to increase by the same percentage that the formula expenditures are allowed to increase.

11. That until new plans can be formulated for The University of Lethbridge, this institution be divorced from the general procedures outlined for financing universities and that special arrangements be made for its financing.

12. That a five year plan be adopted for Athabasca University in accordance with the principles recommended in this document.

We shall be pleased to answer any questions you might have with respect to the recommendations or the brief itself.

Respectfully submitted,  
M. Wyman  
for  
The Universities of Alberta.

## **A Policy For The Long Range Financing of the Universities in Alberta**

*By Dr. M. Wyman*

This brief is intended to lay the groundwork of a policy for the long range financing of the universities in Alberta. It deals with the following topics:

1. Public concern;
2. The formula;
3. Expenditure index;
4. Base year—other income—payment of Government grant;
5. Tuition fees;
6. Enrolment unit projections;
7. Above-formula grant;
8. Non-formula grant;
9. Universities of Lethbridge and Athabasca;
10. Financial impact of all recommendations for all universities;
11. Conclusion.

### **1. PUBLIC CONCERN**

Universities are aware of the concern the public has had, and still has, about the rate of increase in the financial expenditures of educational institutions. Indeed, we are acutely aware of the determination of society, acting through its governments, to reduce sharply the rate of increase that obtained during the 1960's. Although we who work in educational institutions can hardly be expected to applaud this determination, we admit that this is a legitimate decision for a society to make. There may well come a time when a society might have regrets about having made such a decision. But if the decision is made, then we shall cooperate to allow this reduction to take place in a reasonable and systematic manner.

Society has voiced its concern about waste, priorities, staffing, needless duplication and a host of other matters pertaining to systems for the delivery of education to the public. In

Alberta, the choice of 1972-73 as a base year, a year during which the government grant only rose by 1.8%, should dispel most of the concern the Government has had in the past. If not, the residual concern can be dispelled by discussion, or rectified by agreement during the next year or so.

In any event, our major purpose is to state the principles of a long-range financing procedure which would start from a base year in which agreement has been reached with the Government on the operation of the University system.

### **2. FORMULA\***

\*In the discussion that follows we consider only the operating expenditures by the universities of monies derived from tuition fees and provincial government operating grants. We ignore

(a) revenues related to residences, food services, etc. These are essentially self-supporting;

(b) funds derived from private donations, or interest on private endowments;

(c) Funds supplied to the universities or university faculty members for the support of research or scholarly or creative work. The bulk of this money is obtained from federal bodies such as N.R.C., M.R.C., and Canada Council. The amount received from this source is approaching \$15,000,000 per annum, i.e., about 15% of the total provincial operating grants. We regard the functions supported by these funds as a vital part of university work. Should there be any major withdrawal of federal support in this area, we would be forced to seek additional provincial funds.

The Government has proposed a formula which would contain the following quantities:

1. An expenditure index  $E$ , defined to be the formula expenditures per enrolment unit;
2. The number of enrolment units  $N$ , which would be calculated by assigning appropriate weighting factors to the students in different programs and different years of the same program;
3. The total formula expenditures— $F$ ;
4. The total tuition fees and other income— $T$ ;
5. The Government formula grant— $G$ ;
6. A non-formula Government grant— $H$ ;
7. An above-formula Government grant— $A$ .

For any given year, the calculation of the expenditures and the various categories of Government grants would be as follows:

1. Total formula expenditures = expenditure index  $x$  number of enrolment units, or  
 $F = EN$ ;

2. Government formula grant = formula expenditures minus the tuition fees, and the other income, or  
 $G = EN - T$ ;

3. The non-formula Government grant has in the past supplied funds for public service, seed money for new programs, and the special needs of an emergent institution. This grant does not necessarily follow a formula and is subject to Government decision from time to time;

4. The above-formula Government grant was conceived to help universities through a difficult transition period. It would be our hope that the need for such grants would rarely occur. Thus in any given year:—  
Total expenditures = total formula expenditures plus the non-formula grant plus the above-formula grant,  
or

Total expenditures =  $EN + H + A$ ;  
and the

Total Government grant = Total expenditures minus tuition fees, =  $EN + H + A - T$ .

The universities of Alberta agree that the Government proposal provides a sound and

flexible basis to provide financial resources to universities. With proper interpretation, these principles can provide an imaginative and sound basis for financing educational institutions in Alberta.

### 3. EXPENDITURE INDEX : $E$

The use of these principles assumes that a base year has been chosen, and the value of the expenditure index,  $E$ , has been determined for that year. For example, in the base year 1972-73,  $E = \$1640$ . If all calculations are made in the dollars of the base year, then a fixed choice of the expenditure index will provide for the erosion imposed on the system by inflation.

In order to convert the base year dollars to current year dollars, an index must be chosen to measure the rate of inflation  $r$ .

Recommendation (1). *That the rate of inflation  $r$  be determined by the % increase in the "All-items consumer price index for Canada" from July 1 to June 30 for the period preceding by two years the one to which it has to apply.*

For example, for the budget year 1973-74, the rate of inflation  $r$  would be equal to the % increase in the "All-items consumer price index for Canada" from July 1, 1971 to June 30, 1972. This would mean that exact calculations could be made about a year in advance, reasonable estimated calculations could be made about eighteen months in advance, and there could be no argument about the numerical value of the index involved.

If recommendation (1) is accepted, the universities and the Government would have agreed on a procedure for eliminating the erosion of university budgets caused by inflation.

Should the expenditure index  $E$ , measured in the dollars of the base year, always remain fixed, or are there reasons to allow it to change? A decision to allow no change carries with it the following implications:

1. The average salary of people who work in the university system, both academic and non-academic, will be held constant as measured in real dollars, and it will not increase no matter how much additional wealth the economy of Canada produces in the years to come.
2. Universities cannot expect to receive money for innovation through the formula grant.
3. Change in the university system can only take place at the expense of an existing program or service.

In economic terms, universities, like the Government itself, are labor intensive service

institutions for which no real gain in productivity can normally be expected in the sense in which the term is used in industry. The true productivity of an educational institution is not measured by the number of students per member of staff. It should be measured by the total knowledge produced by the institution and the applications made of that knowledge to increase the wealth of the nation. By such a measure, the productivity of our educational institutions has been high indeed.

The people who work in the university system, both academic and non-academic, expect to obtain real dollar increases in their salaries when such increases are justified by real dollar increases in the Gross National Product. Our society accepts this as a legitimate expectation and, indeed, the Government of Alberta has applied the principle involved in the determination of total salary settlements for its civil service. In keeping with this expectation, the universities of Alberta make the recommendation:

Recommendation (2). *That in addition to inflationary changes the expenditure index be allowed to change by a so-called plus factor  $p$  which will provide for two things; first, that people who work in universities may expect real dollar increases in their salaries when justified by real dollar increases in the Gross National Product, and secondly, that university costs may rise as a result of changes in the nature or quality of the functions performed for society.*

The first part of this may be determined by the % increase in the gross national product as measured in real dollars. The universities do not claim that these two rates should necessarily be equal. Such a policy might unduly inhibit the right of the government to rearrange its spending priorities from time to time. We suggest, however, that this part of the plus factor should be calculated as some fraction of the real increase in the gross national product.

The second portion of  $p$  relates to the increased demands made upon universities by society as a result of the increase in sophistication and complexity of society and its technology. There is no simple index which measures this. Growth of this kind is not uniform across the campus, or over the years. The most striking example in the past decade has been in the use of computers. At The University of Alberta the instructional and research use of computers now accounts for approximately 3% of the operating budget. This is not a replacement of other functions as might be the case in the administrative use of computers, but represents a change in what

the university is expected to do. Most of the present use is in the fields of science and engineering. If, as we expect, there is continued rapid growth in the use of computers in the social sciences, business administration, and medicine, there will be corresponding increases in our costs. For a short run, say three years, a fixed choice of p could be made.

Coupled together, the first two recommendations yield the following conclusion:

The % increase in the Expenditure Index  
= % increase in inflation + a plus factor,

or

The % increase in the Expenditure Index  
= r + p.

The choice of r is made to eliminate the effect of inflation and a choice of p reflects in part the government decision as to the way in which the average salary, measured in real dollars, of people who work in the university system will be allowed to increase during years when there is real dollar increase in the wealth of the nation, and in part to reflect changes in what society expects universities to do.

In the document "Universities Commission Comments Re The Longer Term Financing Proposal," the following comment is made with respect to the % increase in the expenditure index.

"Historically the commission has used a 6% factor not because of any relationship to chosen statistical indexes but rather a feeling that 6% was a reasonable factor for the universities to live within."

Although this is obviously an honest admission on the part of the Commission, the statement makes very little sense to us. A 6% increase in the expenditure index is certainly not historical for the six or seven years of the life of the present Commission. Appendix I shows that the actual yearly increase at The University of Alberta was close to 6% for only two of the six years involved and the average annual increase during those years was 7.9%.

From 1966 to 1972, the average annual increase in the "All-items consumer price index for Canada" was 4.2%. Hence for that period of time, the plus factor for The University of Alberta was  $7.9\% - 4.2\% = 3.7\%$ . This plus factor was about 75% of the annual average increase in the gross national product measured in real dollars for that period of time.

As has already been mentioned, we are aware that the Government may wish to reduce the rate of increase of educational

expenditures, and we realize that such a policy would imply a reduction of the plus factor of 3.7% during the 1970's. The important question must surely be, "What will be the magnitude of this reduction?"

Faced with similar data for the United States, the Carnegie Commission ("The More Effective Use of Resources," June, 1970) recommends that the plus factor of the 1960's be reduced by 25%. In an article, "Financial Needs of the Campus," H. T. Bowen writes, "With best efforts, the scope for warranted cost-cutting will permit no more than one percent a year as an offset to the forces pushing costs upward." For Alberta, the two observations are equivalent, and suggest a plus factor of 2.7%.

A reduction of 1% per year in the plus factor, amounting to about \$1,000,000 per year for the universities in Alberta, may not seem very much. However, it must be remembered that this is cumulative over the years and would amount to 3% or \$3,000,000 in the third year and to 10% or \$10,000,000 in the tenth year. If a 2% reduction in the plus factor is attempted, then all the data above would be doubled, and the universities would be in a sorry financial position indeed.

Recommendation (3). *That the universities in Alberta ask the Government of Alberta to cut the plus factor of the 1960's by no more than 25%, and fix the plus factor at 2.7% or higher for the next two or three years. The particular choice of the plus factor should be reviewed from time to time.*

The recommendation of the Commission of a 6% increase in the expenditure index is not only wrong in magnitude, but it is also wrong in principle. The effect of fixing the rate of increase of the expenditure index would be to give the universities excess money when they need it least, and impose a severe shortage of money when they need it most. To illustrate, we choose extreme cases. If inflation were eliminated, and the inflation factor is zero, then a fixed 6% rate in the expenditure index means that the plus factor is also equal to 6%. At such a time, salary settlements will be low, probably in the 3% to 4% total package range, and the universities would find themselves with millions of dollars they would not need. On the other hand, if the rate of inflation is 7%, the plus factor would become  $-1\%$ , and with salary settlements in the 10% to 11% total package range, universities would find themselves millions of dollars short. The universities can see nothing in the Commission's recommendation of a fixed rate of increase in the expenditure index to commend it for adoption in a long-range financing policy for the universities in Alberta.

#### 4. BASE YEAR—OTHER INCOME—PAYMENT OF GOVERNMENT GRANT

As mentioned, a long range financial plan depends for its success on the choice of a base year, preferably a year that makes the choice equitable to both the Government and to the university system. Appendix IV contains Universities Commission data concerning two alternatives the Commission was considering in October, 1971. For 1971-72, the total formula expenditures are given as below:

1971-72	
Formula Government Grant	\$84,531,000
Tuition— $31,350 \times 500$	15,675,000
Other income	1,300,000
	<hr/>
	\$101,506,000

When the Commission document was prepared, it was already known that there had been a severe drop in enrolments and enrolment units from those that had been projected the previous year. The enrolment data are as follows:

1971-72	
Projected enrolment units (projected during previous year)	65,600
Estimated enrolment units (close to actual enrolments for 1971-72)	60,800

Faced with a major error between its projections and actual enrolments, the Commission considered two possibilities. The first was equivalent to the assumption that the Government Grant was spent on the actual enrolments, making the expenditure index  $= \$101,506,000 / 60,800 = \$1,670$ , or to assume that the money was to be spent for the projected number of enrolment units making the expenditure index  $\$101,506,000 / 65,600 = \$1,547$ .

The Commission ultimately chose the latter, making the harshest possible financial decision that could be envisaged at that time, a decision that indeed involved a difference of \$7 to \$8 millions of dollars in the Government formula grant.

The universities in Alberta claim that the responsibility for the planning error involving about 5,000 enrolment units, and the amounts of money indicated above, was the Commission's. In good faith, the universities' plans were based on Commission forecasts. This was a time for understanding of the problems planning errors of this kind inflict, and the universities deserved some relief from the relentless arithmetic of a literal and rigid interpretation of the formulas. Even a half-way measure of setting the expenditure index at about \$1,600 would have relieved the extreme pressure that was placed on the universities at that time.

In any event, the Commission set the expenditure index at \$1,547 for 1971-72, and with its 6% factor calculated the 1972-73 value of the index to be  $\$1,547(1.06) = \$1,640$ . In addition, the Commission assumed a "no-growth" projection for 1972-73 enrolment units.

Obviously the Commission has used 1971-72 as a base year. If this were to be the base year of the Government proposal, then what would the "no-growth" projection mean? Would it mean the 65,600 enrolment units used in the forecast for 1971-72, or the 60,800 actual enrolment units of 1971-72? Both of these are higher than the actual enrolment units of 1972-73 (59,614). It seems to us unwise to choose 1971-72, and it would seem to be in the Government's best interest to choose 1972-73 as the base year. At least the best available actual data for enrolment units could be used.

What then should be the value of the expenditure index? Even if the harsh decision of the Commission is used, the recommendations of this brief would calculate the 1972-73 expenditure index to be  $\$1,547(1.045)(1.027) = \$1,660$ , not the Commission's \$1,640. In view of the doubtful validity upon which the Commission's data is based, the universities in Alberta believe that the expenditure index for 1972-73 should be higher than \$1,660, but we will save our recommendation until further aspects of this problem are examined.

The Commission lists "other income" in its calculation of university revenues, and such income is an estimate of interest earned by the universities from pre-payment of the Government grant. Although everyone is aware of the importance of this income, it should in no way be a part of calculations of formula grants. This must surely be part of the settlement of the accounts between the Government and the universities, and nothing more should be involved. Nevertheless, this money is very real and it is our recommendation that the present method of payment of the Government grant should be continued.

If the "other income" is deleted from the Commission's recommendation, then the 1971-72 expenditure index is  $\$100,206,000/65,600 = \$1,528$ . For 1972-73, the index would increase to  $\$1,528(1.045)(1.027) = \$1,640$ . It is important to realize that it is accidental that our index of \$1,640 is equal to the Commission's index of \$1,640. The former has taken "other income" out of the calculation, while the Commission's index still includes "other income" to establish its value.

Subsequent analysis will show that using the base year as 1972-73, and setting the expenditure index at \$1.665 would, in fact,

completely wipe out the so-called above-formula grant for 1973-74. It would not necessarily affect the financial arrangements that have already been made. There would remain, however, a relatively small problem because this policy for the system would not affect The University of Alberta and the University of Calgary in exactly the same way. A change to a base of \$1.665 would more than eliminate the above-formula grant at Alberta but would not do likewise at Calgary.

In order to minimize this problem, we shall, in fact, recommend that the value of the expenditure index be different for The University of Alberta from that for the University of Calgary.

#### Recommendation (4).

(a) That "other income" not appear in calculations involved in calculating Government grants to the university system;

(b) That the method of payment used in the past to pay the Government grant to the university system remain as in the past.

If not, the Government and the universities should come to some mutually agreed upon method of payment;

(c) That 1972-73 be considered as the base year, and the expenditure index be set for that year as:

(i) \$1,650 per enrolment unit for The University of Alberta

(ii) \$1,670 per enrolment unit for the University of Calgary.

#### 5. TUITION FEES

The Government long-range proposal seems to indicate that tuition fees will not increase during the period under discussion. Although this is a legitimate decision for the Government to make, we wish to be certain that the Government is aware of the hidden subsidy to students that is involved in this policy. Under the formula structure being envisaged, a fixed tuition fee policy would mean that the rate of increase in the Government grant per enrolment unit will have to be considerably higher than the rate of increase in the expenditure index. The following data illustrate the point to be made.

	Tuition fees (current dollars)	Inflation factor tuition fees	Tuition fees 1972-73 dollars
1972-73 (base year)	\$13,800,000		
1973-74	13,800,000	4.5%	\$13,200,000
1974-75	13,800,000	5.7%	12,500,000
1975-76	13,800,000	5.7%	11,800,000

The inflation factor of 4.5% is already known. Six months data are available to estimate the first 5.7% rate. The second 5.7% is conjecture made for purpose of illustration. Obviously, for the period involved, there is a hidden subsidy of  $\$13,800,000 - \$11,800,000 = \$2,000,000$  (72-73 dollars) to students, about \$700,000 (72-73 dollars) per year. Since the Government proposal seems to indicate a desire to pay such a subsidy, the only point the universities want to make is that the rate of increase in the expenditure index will not be the same as the rate of increase in the Government grant. The latter will be considerably higher than the former.

In order that such subsidies be clearly seen, the following recommendation is made:

Recommendation (5). That in the first instance, all calculations be made in the dollars of the base year involved.

Comment: Comparing the inflated dollars on a year to year basis gives a false impression of the real increase involved.

#### 6. ENROLMENT PROJECTIONS

We have agreed with the Government's proposal to calculate the total formula expenditures by means of the following formula:

Total formula expenditures = Expenditure index  $\times$  number of enrolment units

or

$$F = EN.$$

This seems to be a reasonable attempt to measure such expenditures.

Since a detailed analysis of the impact of the expenditure index has been made, we would now like to consider this index to be fixed, and to go on to a discussion of the second factor, the number of enrolment units N. If a rigid, literal interpretation of the formula is made, it would say that for each increase of one enrolment unit the expenditures will be allowed to increase by \$E, and for each decrease of one enrolment unit the expenditures must be reduced by \$E. Such a rigid interpretation would make the formula basically unsound. An increase or decrease of one enrolment unit would never affect the expenditures of a university system. Indeed, it is doubtful whether a variation of 1,000 enrolment units (equivalent to about 500 students and about \$1,500,000) would or indeed should affect the actual expenditures of a university system.

A literal interpretation of the formula would say that in any two years, no matter how far apart they may be, the expenditures of a university system, measured in the dollars of a base year, must be the same as long as the total enrolment units are the same. Further,

this must be so no matter what decisions are made during the intervening years by the university with government approval, by the government alone, or by outside agencies over which the university has no control. We shall use data from The University of Alberta to show that such an assumption is demonstrably false.

In 1973-74, the enrolment and enrolment units of The University of Alberta will be roughly the same as they were in 1969-70. Yet in the meantime an unemployment insurance scheme was imposed on the University by a Federal Government decision, a decision that cost the University about \$200,000. City of Edmonton utility rates are to be increased by 16% and this will cost the University about \$300,000.

Provision for space has always been made with Government approval, and has always been based on enrolment estimates made by the Universities Commission. By the end of 1969, The University of Alberta had 4,900,000 square feet of space that had to be maintained by our Department of Physical Plant. By the end of 1973, this will have increased to 7,300,000 square feet, and the additional cost is \$3,000,000 per year. Unless it is being envisaged that The University of Alberta will shut down about 2,500,000 square feet, there is no way that the physical state of the campus can be returned to what it was during 1969-70.

If our Government makes a literal interpretation of this formula, as other Governments have already done, then it will create real, and in our opinion unjustified, havoc among the universities in Alberta, havoc that is already in evidence among many universities on this continent. Further, the smaller the university, the greater the havoc. One can hardly read a newspaper now without learning of this or that university desperately cutting staff to meet the budget rigidity of a formula like  $F = EN$ .

It therefore seems obvious to us that the assumption that would allow a rigid interpretation of such a formula to be valid is demonstrably false. However, with proper interpretation, the formula can be used to calculate expenditures and used as an effective planning tool. In order to be useful, the extreme sensitivity of the formula to small percentage increases or decreases to enrolment units should be removed.

The following recommendation is made to remove a disastrous and undesirable sensitivity:

Recommendation (6). *That once the total expenditures of the university system have been calculated, the formula grant of the Government should be given on the under-*

*standing that it will not be changed as long as enrolment units do not increase or decrease by more than 7.5%; if actual enrolment units are outside this range, measures will be introduced to allow a university to proceed to a higher or a lower plateau. The University of Calgary believes the enrolment tolerance should be 5%.*

At the present time there are about 60,000 enrolment units in the Alberta university system. This recommendation is equivalent to saying that a "no-growth" assumption will be made as long as the enrolment units remain in the range 55,500 to 64,500. Under this recommendation, the university system would be expected to absorb an extra 2,000 full-time students without an addition to the formula grant, and the university system would not suffer a financial loss of about \$6,500,000 because 2,000 students that were expected to enrol failed to do so.

In order that one university in the system should not gain or lose at the expense of the other universities in the system, recommendation 6 should apply both individually and collectively.

To illustrate the importance of reducing the financial sensitivity of the formula used to calculate the Government formula grant, an examination of the projections for 1973-74, 1974-75, and 1975-76 made by the Universities Commission is given below:

Universities Commission Enrolment Projections		
Year	Full-time Enrolment	Enrolment Units
Base Year		
1972-73 (actual)	27,613	58,954
1973-74 (projection)	27,500	58,850
1974-75 (projection)	26,600	57,400
1975-76 (projection)	26,600	57,600

Since these are projections, it is important to ask how accurate they can be expected to be. Appendix II contains the data of two previous projections made by the Commission, one dated August, 1968, and the other dated August, 1970.

Focusing attention on the most recent projections, the medium projection was in error by 17.3% for 1971-72, was in error by 35.3% in 1972-73, and is almost certain to be in error by about 50% for 1973-74. Although these errors are astounding in magnitude, one can give a reasonable explanation of how the Commission, and others, might have been led to such conclusions. When linear projections are used on data that have an undetected cyclical effect, the use of short term data will produce errors of this kind. Appendix III gives the forty-year data of enrolments in the

first year of engineering, and the cyclical effect is obvious in these data. It is also illustrative of how the use of short term increasing or decreasing data might lead to extremely large errors in projection during a very short period of time.

With possible errors of this kind, it is mathematical nonsense to claim that an accurate projection has been made that will sustain the conclusion that there will be an actual drop in enrolments of about 5% and an actual drop in enrolment units of about 2.5%. Indeed, even reasonable possible errors in these data will not sustain a qualitative prediction that a drop of any kind will occur. Recent decisions make a downward trend doubtful, and an upward trend might actually occur. For example, some factors that will tend to increase enrolments can be mentioned.

1. New requirements for teacher certification should apply an upward pressure on enrolments in faculties of education and summer school;

2. The removal of Provincial-wide Grade XII examinations will increase the number of matriculating students, and the increase may well be dramatic;

3. In view of the new examinations policy, universities will have to recognize that there will be a diversity in the standards of marking by the various schools in the Province, and the 60% average, required for university admission, must be reconsidered. If this requirement were dropped, then university enrolments might well increase by thousands.

However, there still exist extremely strong pressures tending to force university enrolments down. The significant drop in the number of students in the elementary school population will certainly exert a strong pressure to cause university enrolments to drop. The development of attractive programs by other post-secondary educational institutions will have the same effect. A recent decision by the National Research Council to abandon bursary programs for science students has just been announced. Although this decision will cause the numbers of graduate students in science to drop, the magnitude of the drop is not yet predictable.

Enrolment projections are in a state of confusion, and no definite trends have been established. Recognizing these circumstances, the following recommendation is made:

Recommendation (7). *That for the years 1973-74 and 1974-75, an assumption of "no-growth" be made for the university system. The "no-growth" assumption for the University of Calgary should be as defined below.*



Normally the above should mean that the audited enrolment data for 1972-73, the base year, would be used for the years mentioned above. However, there is a special problem for the University of Calgary that should receive special consideration. Some years ago, the University of Calgary introduced a mandatory four year program in both Arts and Science. The first regular class of about 800 students in the fourth year will not appear until 1973-74. Hence 1972-73 is a particularly bad year to introduce a "no-growth" policy with respect to the University of Calgary. Although we estimate 9,200 full-time students and 18,400 enrolment units for the University of Calgary for 1973-74, our careful analysis of the accuracy of the projected data does not allow us to suggest that projected data be used to replace audited data. Equity to the University of Calgary and the Government suggests that the audited data for 1973-74 be used as the "no-growth" data for the University of Calgary for the years 1974-75 and 1975-76. This would in no way affect the financial arrangements completed for 1973-74. Although there would be a delay of about eight months before final 1974-75 calculations could be made for the University of Calgary, accurate estimates of the amounts of money involved can be made. The "no-growth" data for the three universities would be as follows:

Enrolment Unit Data				
	Alberta	Calgary	Lethbridge	Total
Base year—				
1972-73				
(actual)	39,290	17,740	1,924	58,914
1973-74	39,290	18,400	1,924	59,614
		(estimate)		
1974-75	39,290	18,400	1,924	59,614
		(estimate)		
1975-76	39,290	18,400	1,924	59,614
		(estimate)		

and the data for full-time enrolments would be:

Full-time Enrolments				
	Alberta	Calgary	Lethbridge	Total
Base year—				
1972-73				
(actual)	17,757	8,780	1,076	27,613
1973-74	17,757	9,200	1,076	28,033
		(estimate)		
1974-75	17,757	9,200	1,076	28,033
		(estimate)		
1975-76	17,757	9,200	1,076	28,033
		(estimate)		

The August, 1970, projections of the Commission give a range of projections labelled "low," "medium," and "high," and this forecast expects a possible error of about

6% in 1971-72, about 10% in 1972-73, and about 12% in 1973-74. It should be noted that the actual enrolments were not, in fact, in the range covered by the possible errors. Our recommendations ask that an estimate of 59,614 enrolment units be interpreted to cover the range  $59,614 \pm 7.5\%$ , or from 55,000 to 64,000, and it should cause no surprise if actual enrolment units are outside this range for one or more of the years mentioned above. Such planning errors can only be rectified by making new plans or on an *ad hoc* basis.

#### 7. ABOVE-FORMULA GRANT

It must be envisaged that the university system may encounter extreme financial difficulties because of Government planning that fails to materialize. Obviously if enrolments drop below the 7.5% tolerance previously recommended, the system will have to make a serious financial adjustment in order to fall to a lower plateau in its financing. At such a time, the Government would be wise to spread the required adjustment over a reasonable number of years, and an above-formula grant may be required over that period of time.

With Government approval, the University of Lethbridge planned for an enrolment of 3,000 students and, indeed, space has been completed to house 2,000 students. After reaching an enrolment of about 1,500 students, the number of full-time students has dropped to about 1,100. A planning error of this magnitude cannot be instantly overcome unless the university is closed. If it is to remain open and have a chance to grow, a very large above-formula grant will have to be given for many years.

If in the opinion of the Government, an above-formula grant should be given to the university system, then the following policies should pertain:

*Recommendation (8). That if an above-formula grant is given for certain reasons, it should not be reduced until the reasons for the grant no longer hold true; when these reasons cease to be valid, then the grant should be reduced by approximately equal amounts over a period of five years.*

Comment: The universities have no substantial evidence to show that a five year period is better in some sense than any other period of time.

The effect of Recommendation (8) will be illustrated later in our brief. Even a five year period causes extreme hardship for the University of Calgary.

The Government proposal contains a sample calculation in which the size of the above-formula grant for 1973-74 is set at

\$5,800,000. If recommendation (4) were accepted there would be a very small above-formula grant required for 1973-74 and university revenues would not include a non-recurring item of a significant magnitude. In the table below we illustrate for the entire system the calculation involved for two different values of the expenditure index in 1973-74:

(a) \$1,640 per enrolment unit—as proposed by Government; and

(b) \$1,665 per enrolment unit. (This amount is a simplification of the levels proposed for Alberta and Calgary, viz. \$1,650 and \$1,670 respectively.)

1. Enrolment units (N) = 59,614

2. Expenditures per enrolment unit (E)

(a) \$1,640

(b) \$1,665

3. Plus factor =  $p = 1.027$

4. Formula expenditures (ENp)

(a)  $\$1,640(59,614)1.027 = \$100,400,000$  in 72-73 dollars

(b)  $\$1,665(59,614)1.027 = \$101,900,000$  in 72-73 dollars

5. Tuition revenue (T) =  $\$13,800,000/1.045 = \$13,400,000$  in 72-73 dollars

6. Formula Grant =  $ENp - T$

(a)  $\$100,400,000 - \$13,400,000 = \$87,000,000$  in 72-73 dollars

(b)  $\$101,900,000 - \$13,400,000 = \$88,500,000$  in 72-73 dollars

7. Actual formula grant =  $\$92,500,000/1.045 = \$88,500,000$  in 72-73 dollars

8. Above formula grant (point 7 less point 6):

(a)  $\$88,500,000 - \$87,000,000 = \$1,500,000$

(b)  $\$88,500,000 - \$88,500,000 = \$0$

The universities in Alberta believe that the Government's calculation of an above-formula grant of \$5,800,000 gives a completely distorted picture of university financing.

#### 8. NON-FORMULA GRANT

As it is used now, the non-formula grant provides support for the public service function of the university system, provides seed money for new programs at established universities, and provides special funds for small developing universities that cannot be expected to obtain the economics of scale available to a large, established university. The unsatisfactory experience this Province has had with such grants seems to indicate that such grants should be used only for the



support of the public service function of the university system.

The public service portions of the non-formula grant require special consideration. They cover a variety of programs supplying the less formal educational needs of the community. These range from short courses for business or professional groups through public affairs, foreign language and fine arts courses to libraries of books, films and audio- and video-tapes. In these areas there has historically been much less subsidy by government than in the other areas of university work. There is a need not only to cover the rising costs of such programs, but to extend them both in the numbers of the public who can be served and in the range of ways in which that public may be reached. Since the proportion of total university costs is small, and since this activity relates very directly to the programs and interests of the colleges system, we do not propose to explore this area further in this Brief. We would like to have a wide ranging discussion of the nature of and support for this area in the near future.

For the financial support of other functions stated above, the following recommendation is made:

*Recommendation (9). That when the Government approves a new program at an existing institution, or a major expansion of an established program at an existing institution, or a new university, then an estimate should be made of the number of enrolment units involved when the new or expanded facility becomes fully operative; a value to the expenditure index should be assigned and the total Government support for the fully operative facility should thus be determined.*

During the developing years, the Government support for a new or expanded program at an existing institution might be as follows. The example shown is for a three-year program.

1. 25% of total fiscal support is given in the year before the program is open to students;
2. 50% of the total fiscal support is given for the year students enter the program for the first time;
3. 75% of the total fiscal support is given for the year students enter the program for the second time;
4. 100% of the total fiscal support is given for the year students enter the program for the third time.

Although we have illustrated the effect of the recommendation when a three-year program is involved, the principles can be extended to cover programs that require any other number of years for a degree. The

principles can also be used to cover the developing years of a new institution, but the planning years before students become involved will normally be longer than one year.

If plans that were made are realized, then the program or new institution is on stream, and the regular formula granting procedures take over. If, however, the expected enrolment units are considerably below those for which the plans were approved, the institution and the Government should re-assess the plans, and a new plan for the program or institution should be established. During the change from the old to the new, the institution should be given an above-formula grant.

Some such scheme should have been operative during the planning period for the University of Lethbridge, and such a scheme should have applied to the large non-formula grant for the Faculty of Medicine at the University of Calgary. Unfortunately no such scheme was adopted, and these two universities and the Government are faced with extremely large non-formula grants.

When the Universities Commission Committee studying the weighting system reports, it should be possible to abolish non-formula grants except for the support of the public service function. To cover the interim period, the following recommendation is made.

*Recommendation (10). That until suitable weights are assigned for enrolments for all new programs, the present non-formula grant be treated as if it were part of the formula grant; it should be allowed to increase by the same percentage that the formula expenditures are allowed to increase.*

If it takes three years to accomplish the intent of recommendation (10), then the data for the non-formula grants of the universities of Alberta and Calgary would be as follows:

*The University of Alberta*

Non-formula expenditures

	1973-74	1974-75	1975-76
	\$828,000	\$850,000	\$873,000
	(72-73	(72-73	(72-73
dollars) =	dollars) =	dollars) =	dollars) =

\$865,000/ 1.045	\$828,000 (1.027)	\$828,000 (1.027) <sup>2</sup>
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*University of Calgary*

Non-formula expenditures

	1973-74	1974-75	1975-76
	\$2,957,000	\$3,030,000	\$3,119,000
	(72-73	(72-73	(72-73
dollars) =	dollars) =	dollars) =	dollars) =
\$3,090,000/ 1.045	\$2,957,000 (1.027)	\$2,957,000 (1.027) <sup>2</sup>	

**9. UNIVERSITIES OF LETHBRIDGE AND ATHABASCA**

It has been indicated that the plans envisaged for the development of the University of Lethbridge are now in error by about 100%. In keeping with the principles enunciated, the time has come when the Government and the University of Lethbridge should determine a new set of plans for the development of this institution. Since space for about 2,000 students already exists, everything should be done to increase dramatically the enrolments at the University of Lethbridge. New programs might be offered. A financial inducement might be used to attract people to become students at the University of Lethbridge. In view of the drastic change in the Grade XII examinations, this university might be allowed, if it so desires, to change its entrance requirements and possibly admit students who have obtained a high school diploma. This latter change might in fact be considered as an experiment, and would provide important information about the success of such students, information of value for the whole university system.

If everything fails to make this a viable, but not necessarily a fully developed, institution during the next five years, then the Government should give serious thought to closing the University of Lethbridge.

*Recommendation (11). That until new plans can be formulated for the University of Lethbridge, this institution be divorced from the general procedures outlined for financing universities, and that special arrangements be made for its financing.*

It is proposed that expenditures and grants at the University of Lethbridge be allowed to increase according to the following table:

**University of Lethbridge Expenditures and Government Grant  
(Calculated in 1972-73 dollars)**

	Total Expenditures	Tuition Fees	Government Grant
1973-74	\$5,550,000 =	\$622,000 =	\$4,928,000
	\$5,800,000/(1.045)	\$650,000/(1.045)	
1974-75	\$5,700,000 =	\$588,000 =	\$5,112,000
	\$5,550,000(1.027)	\$650,000/(1.045)(1.057)	
1975-76	\$5,850,000 =	\$556,000 =	\$5,294,000
	\$5,550,000(1.027) <sup>2</sup>	\$650,000/(1.045)(1.057) <sup>2</sup>	

Although a plus factor of 2.7% is used on total expenditures, the increase in the Government grant (measured in 72-73 dollars) is 3.7% from 1973-74 to 1974-75, and 3.5% from 1974-75 and 1975-76. This illustrates the serious erosion that is taking place in tuition fee revenue, and the impact that this policy has on the Government grant.

In planning the development of Athabasca University, it is imperative, in our opinion, that a five-year plan be adopted, and the financing of this University be in accord with the principles recommended in this document. Athabasca University has indicated its financial needs as follows:

#### Athabasca University

1. 1973-74—\$450,000 (1973-74 dollars)
2. 1974-75—\$770,000 (1974-75 dollars)

Recommendation (12). *That a five-year plan be adopted for Athabasca University in accordance with the principles recommended in this document.*

#### 10. FINANCIAL IMPACT OF ALL RECOMMENDATIONS FOR ALL UNIVERSITIES

The following tables set out, in summary fashion, the financial implications of the various recommendations made in this paper. These include: (1) establishment of the

inflation rate by the % increase in the consumer price index; (2) the application of the plus factor (2.7%); (3) removal of "other income" from the cost base; (4) separate cost bases for each university; (5) conversion to "real" (1972-73) dollars; (6) the principle of "no-growth" for 1973-74 - 1975-76; and (7) non-formula grants to be treated as if they were part of the formula grants. The tables are set out in two categories: (1) assuming the universal base cost per unit of \$1.640 in 1972-73 dollars; and (2) assuming a base cost per unit of \$1.650 for Alberta and \$1,670 for Calgary, also in 1972-73 dollars.

#### FINANCIAL IMPACT OF ALL RECOMMENDATIONS FOR ALL UNIVERSITIES

1973-74; 1974-75; 1975-76  
In 1972-73 Dollars

##### 1. The University of Alberta

	1972-73 Base Cost per Unit = \$1.640			1972-73 Base Cost per Unit = \$1.650		
	1973-74	1974-75	1975-76	1973-74	1974-75	1975-76
1. Enrolment Units (N)	39,290	39,290	39,290	39,290	39,290	39,290
2. Expenditures per Enrolment Unit (E) including plus factor. (calculations)	\$ 1,684 (1640[1.027])	\$ 1,730 (1640[1.027] <sup>2</sup> )	\$ 1,776 (1640[1.027] <sup>3</sup> )	\$ 1,695 (1650[1.027])	\$ 1,740 (1650[1.027] <sup>2</sup> )	\$ 1,787 (1650[1.027] <sup>3</sup> )
3. Formula Expenditures (F = EN)	66,160,000	67,970,000	69,780,000	66,600,000	68,360,000	70,210,000
4. Tuition Fees (T) <sup>1</sup>	8,330,000	7,880,000	7,450,000	8,330,000	7,880,000	7,450,000
5. Regular Formula Grant (F - T)	57,830,000	60,090,000	62,330,000	58,270,000	60,480,000	62,760,000
6. Above Formula Grant (down 20%/yr)	230,000	180,000	140,000	(210,000)	—	—
7. Total Formula Grant (5. + 6.)	58,060,000	60,270,000	62,470,000	58,060,000	60,480,000	62,760,000
8. Non-Formula Grant <sup>2</sup>	830,000	850,000	880,000	830,000	850,000	880,000
9. Total Government Grant (7. + 8.)	58,890,000	61,120,000	63,350,000	58,890,000	61,330,000	63,640,000
10. Total University Expenditures (4. + 9.)	67,220,000	69,000,000	70,800,000	67,220,000	69,210,000	71,090,000
11. % Increase in Total Gov't Grant	—	3.8%	3.6%	—	4.1%	3.8%
12. % Increase in University Expenditures	—	2.6%	2.6%	—	3.0% <sup>3</sup>	2.7%

#### NOTES:

1. Tuition Fees are converted to 1972-73 \$ as follows (a) 1973-74 : \$8,701,000/1.045; (b) 1974-75 : \$8,701,000/(1.045) (1.057); (c) 1975-76 : \$8,701,000/(1.045) (1.057)<sup>2</sup>.
2. Non-Formula grants are converted to 1972-73 \$ as follows: (a) 1973-74 : \$865,000/1.045 = \$830,000 (b) Thereafter the 1973-74 amount is increased by the plus factor of 1.027 each year.
3. The 3.0% increase in total expenditures is due to the negative value of the above formula grant. If this were added to the total University expenditures for 1973-74, the percentage increase would change to 2.6%.

**FINANCIAL IMPACT OF ALL RECOMMENDATIONS FOR ALL UNIVERSITIES**

**1973-74; 1974-75; 1975-76  
In 1972-73 Dollars**

**2. University of Calgary**

	1972-73 Base Cost per Unit = \$1,640			1972-73 Base Cost per Unit = \$1,670		
	1973-74	1974-75	1975-76	1973-74	1974-75	1975-76
1. Enrolment Units (N)	18,400	18,400	18,400	18,400	18,400	18,400
2. Expenditures per Enrolment Unit (E) including plus factor (calculations)	\$ 1,684 (1640[1.027])	\$ 1,730 (1640[1.027] <sup>2</sup> )	\$ 1,776 (1640[1.027] <sup>3</sup> )	\$ 1,715 (1670[1.027])	\$ 1,761 (1670[1.027] <sup>2</sup> )	\$ 1,809 (1670[1.027] <sup>3</sup> )
3. Formula Expenditures (F = EN)	30,990,000	31,830,000	32,680,000	31,560,000	32,400,000	33,290,000
4. Tuition Fees (T) <sup>1</sup>	4,400,000	4,160,000	3,940,000	4,400,000	4,160,000	3,940,000
5. Regular Formula Grant (F - T)	26,590,000	27,670,000	28,740,000	27,160,000	28,240,000	29,350,000
6. Above Formula Grant (down 20%/yr)	930,000	740,000	560,000	360,000	290,000	220,000
7. Total Formula Grant (5. + 6.)	27,520,000	28,410,000	29,300,000	27,520,000	28,530,000	29,570,000
8. Non-Formula Grant <sup>2</sup>	2,960,000	3,040,000	3,120,000	2,960,000	3,040,000	3,120,000
9. Total Government Grant (7. + 8.)	30,480,000	31,450,000	32,420,000	30,480,000	31,570,000	32,690,000
10. Total University Expenditures (4. + 9.)	34,880,000	35,610,000	36,360,000	34,880,000	35,730,000	36,630,000
11. % Increase Total Government Grant	—	3.2%	3.1%	—	3.6%	3.5%
12. % Increase in University Expenditures	—	2.1%	2.1%	—	2.4%	2.5%

**NOTES:**

1. Tuition Fees are converted to 1972-73 \$ as follows (a) 1973-74 : \$4,600,000/1.045;  
(b) 1974-75 : \$4,600,000/(1.045) (1.057);  
(c) 1975-76 : \$4,600,000/(1.045) (1.057)<sup>2</sup>.
2. Non-Formula grants are converted to 1972-73 \$ as follows: (a) 1973-74 : \$3,090,000/1.045 = \$2,960,000 (b) Thereafter, the 1973-74 amount is increased by the plus factor of 1.027 each year.

**FINANCIAL IMPACT OF ALL RECOMMENDATIONS FOR ALL UNIVERSITIES**

**1973-74; 1974-75; 1975-76  
In 1972-73 Dollars**

**3. Three University Summary: Lethbridge, Alberta, Calgary**

A. Recommendations of Universities	1972-73 Base Cost per Unit = \$1,640			1972-73 Base Cost per Unit = \$1,650(A) & \$1,670(C)		
	1973-74	1974-75	1975-76	1973-74	1974-75	1975-76
1. Total Government Grant (all types)	\$	\$	\$	\$	\$	\$
(a) Lethbridge	4,928,000	5,112,000	5,294,000	4,928,000	5,112,000	5,294,000
(b) Alberta	58,890,000	61,120,000	63,350,000	58,890,000	61,330,000	63,640,000
(c) Calgary	30,480,000	31,450,000	32,420,000	30,480,000	31,570,000	32,690,000
(d) Total	94,298,000	97,682,000	101,064,000	94,298,000	98,012,000	101,624,000
2. % Increase in Gov't Grants	—	3.6%	3.5%	—	3.9%	3.7%
3. Total University Expenditures:						
(a) Lethbridge	5,550,000	5,700,000	5,850,000	5,550,000	5,700,000	5,850,000
(b) Alberta	67,220,000	69,000,000	70,800,000	67,220,000	69,210,000	71,090,000
(c) Calgary	34,850,000	35,610,000	36,360,000	34,880,000	35,730,000	36,630,000
(d) Total	107,650,000	110,310,000	113,010,000	107,650,000	110,640,000	113,570,000
4. % Increase in Expenditures	—	2.5%	2.4%	—	2.8%	2.6%
B. Government Grant as Now Proposed by Government—in 1972-73 \$ <sup>1</sup> —% Reduction in Gov't Grant	94,163,000 —	91,257,000 3.1%	89,590,000 1.8%	94,163,000 —	91,257,000 3.1%	89,590,000 1.8%
C. Difference Between Government Grant as Recommended by Universities and as Proposed by Government (Ald-B)	135,000	6,425,000	11,474,000	135,000	6,755,000	12,034,000

**NOTES:**

1. The total Government Grants—in inflated dollars—as proposed by the Government in its December 27, 1972 paper are as follows: 1973-74—\$99,400,000; 1974-75—\$101,900,000; 1975-76—\$105,700,000. These grants include amounts for Athabasca and Banff. Therefore, an approximation of these amounts has been made: 1973-74—\$1,000,000; 1974-75 & 1975-76—\$1,100,000. The three-university grants, then are: 1973-74—\$98,400,000; 1974-75—\$100,800,000; 1975-76—\$104,600,000. The conversion of these amounts to 1972-73 \$ is as follows:

- (a) 1973-74 :  $\$98,400,000 / 1.045 = \$94,163,000$ ;
- (b) 1974-75 :  $\$100,800,000 / (1.045) (1.057) = \$91,257,000$ ;
- (c) 1975-76 :  $\$104,600,000 / (1.045) (1.057)^2 = \$89,590,000$ .

The difference between using an expenditure index of \$1,640 and the split index of \$1,650 for The University of Alberta and \$1,670 for the University of Calgary is not large, amounting to \$330,000 for 1974-75, and \$530,000 for 1975-76, amounting to less than ½ of 1% for both years. However, the impact on the university system is of major magnitude, particularly for the University of Calgary. The university system would not have the ominous situation where it was being charged with an "above-formula" grant of about \$1,500,000 that is in essence a non-recurring type of revenue that has to be drawn from the system. We have challenged the validity of the calculation of the magnitude of the "above-formula" grant, and we hope the Government will not impose upon the universities the feeling they are living on borrowed time.

The data also indicates the impact of withdrawing the "above-formula" grant over a five year period and illustrate the need for such a period of time. If, in fact, the "above-formula" grant were reduced, the University of Calgary would have extremely serious financial problems during the next two years.

Besides emphasizing again the difference between the rate of increase in university expenditures and the rate of increase in the total Government Grant, the data illustrate the different impact a system policy has on its component parts. This is a major problem universities have in their allocation of funds to faculties and schools.

Although the university proposal would

require an increase of about \$3,400,000 per year in the total Government Grant, about \$700,000 (or 0.75%) is due to the erosion of tuition fees by inflation and is, of course, a direct subsidy to students. All of our recommendations allow only about a 2.4% to 2.8% increase per year in the total real expenditures of the university system.

It should be pointed out that, until actual rates of inflation become known, all data are estimates only, used for purpose of illustration.

# 11. CONCLUSION

The universities of Alberta maintain that the choice by the Commission of \$1547 as the expenditure index for 1971-72 must rank among the harshest possible decisions the Commission could have made at that time. It should be considered as payment in full by the universities for a planning error involving an over-estimate by the Commission of about 5,000 enrolment units, or about \$8,000,000 in the Government Grant. Since the 1972-73 Government Grant reflects *in toto* the harshness of this decision, the choice of 1972-73 is not, from the universities' point of view, a particularly happy choice of a base year. In order to show good faith in our desire to establish a sound basis for long-range financing, the universities will accept a Government decision to make 1972-73 the base year for future calculations.

If 1972-73 is accepted as an appropriate base year, then there can be no validity in the present Government proposal to make further reductions in university expenditures, measured

in real dollars, during 1974-75 and 1975-76. Indeed, the specific proposals for the Government Grant coupled with the erosion in tuition fee revenue would envisage total real university expenditures being reduced by 3.5% during 1974-75, with a further reduction of 2.3% being envisaged for 1975-76. These reductions would come at a time when the rate of inflation is high, salary settlements will be high, and the legitimate financial needs of universities will also be high. To contemplate reductions in the real dollar support of universities under such circumstances is a matter that must be explained. The reasons for such a policy are far from obvious to us.

As already mentioned, we are aware of decisions of other governments that are causing financial havoc among their educational institutions, and are creating a situation that will ultimately lead to bankruptcy for small institutions, and to a serious deterioration in the quality of education offered by larger institutions. We hope our Government will not follow such a disastrous course of action.

By accepting the proposals contained in this brief, the Government will provide leadership for other governments to follow, and will provide a needed lift to the morale of the thousands of people who work in the university system. Indeed, acceptance of these proposals and a public statement by the Government affirming its belief in, and support of, the goals of higher education is badly needed at this time.

## APPENDIX I

### THE UNIVERSITY OF ALBERTA ANALYSIS OF ENROLMENT AND EXPENDITURE INDICES

Year	Total Net Expenditures <sup>1</sup>	Enrolment Units	Expenditure Per Enrolment Unit	Percentage Increase In Expenditure Per Enrolment Unit <sup>2</sup>
	\$		\$	
1966-67	27,680,000	25,077	1,104	—
1967-68	35,619,000	28,020	1,271	15.1%
1968-69	42,861,000	32,329	1,326	4.3%
1969-70	52,854,000	37,020	1,428	7.7%
1970-71	60,763,000	40,058	1,517	6.2%
1971-72	65,066,000	39,849	1,633	7.6%
1972-73 (Revised Est.) <sup>3</sup>	67,855,000	39,000	1,740	6.6%

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1. "Total Net Expenditures", as reported in Financial Statements, have been reduced by the net cost of Public Service Departments. The remaining expenditures are, therefore, close to "formula" expenditures.
  2. Over-all annual average increase in the expenditure per enrolment unit is 7.9%
  3. We have included 1972-73 on an estimated basis, leaving the enrolment unit estimate unchanged even though the actual enrolment unit is now known to be 39,290. The actual net expenditures for 1972-73 will not be known for some time. If calculations are based only on actual data, from 1966-67 to 1971-72, the annual average percentage increase is 8.1%. This is calculated by the compound interest law, not as an average of the yearly increases.
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## APPENDIX II

### COMPARISON OF ENROLMENT FORECASTS AND ACTUALS

#### Enrolment Forecasts

Year	Actual F.T. Enrolment	Commission, Aug/68		Commission, Aug/70			
		No.	% Error	Low	Medium	High	% Error of Medium
A. ALBERTA							
1963-64	8,185	—	—	—	—	—	—
1964-65	9,334	—	—	—	—	—	—
1965-66	10,274	—	—	—	—	—	—
1966-67	11,489	—	—	—	—	—	—
1967-68	13,027	—	—	—	—	—	—
1968-69	15,182	14,200	(6.9)	—	—	—	—
1969-70	17,354	15,600	(11.2)	—	—	—	—
1970-71	18,345	17,000	(7.9)	18,660	19,380	20,045	5.6
1971-72	18,243	18,500	1.4	19,950	21,530	22,710	18.0
1972-73	17,757	19,900	12.1	21,395	23,675	25,545	33.3
1973-74	—	21,000	—	22,865	25,845	28,330	—
B. CALGARY							
1963-64	2,108	—	—	—	—	—	—
1964-65	2,587	—	—	—	—	—	—
1965-66	3,268	—	—	—	—	—	—
1966-67	4,108	—	—	—	—	—	—
1967-68	4,980	—	—	—	—	—	—
1968-69	6,770	6,060	(10.5)	—	—	—	—
1969-70	7,962	7,250	(8.9)	—	—	—	—
1970-71	9,237	8,400	(9.1)	8,755	9,255	9,610	0.2
1971-72	9,173	9,600	4.7	9,535	10,440	11,205	13.8
1972-73	8,780	10,900	24.1	10,525	11,890	13,030	35.4
1973-74	—	12,300	—	11,760	13,555	15,075	—
C. LETHBRIDGE							
1967-68	638	—	—	—	—	—	—
1968-69	1,024	1,000	(2.4)	—	—	—	—
1969-70	1,261	1,150	(8.8)	—	—	—	—
1970-71	1,409	1,300	(7.7)	1,390	1,460	1,515	3.6
1971-72	1,218	1,450	19.0	1,500	1,620	1,715	33.0
1972-73	1,076	1,600	48.7	1,625	1,800	1,960	67.3
1973-74	—	1,750	—	1,775	2,025	2,220	—
D. TOTALS							
1963-64	10,293	—	—	—	—	—	—
1964-65	11,921	—	—	—	—	—	—
1965-66	13,542	—	—	—	—	—	—
1966-67	15,597	—	—	—	—	—	—
1967-68	18,645	—	—	—	—	—	—
1968-69	22,976	21,260	(7.5)	—	—	—	—
1969-70	26,577	24,000	(9.7)	—	—	—	—
1970-71	28,991	26,700	(7.9)	28,805	30,095	31,170	3.8
1971-72	28,634	29,550	3.2	30,985	33,590	35,630	17.3
1972-73	27,613	32,400	17.3	33,545	37,365	40,535	35.3
1973-74	—	35,350	—	36,400	41,425	45,625	—



### APPENDIX III

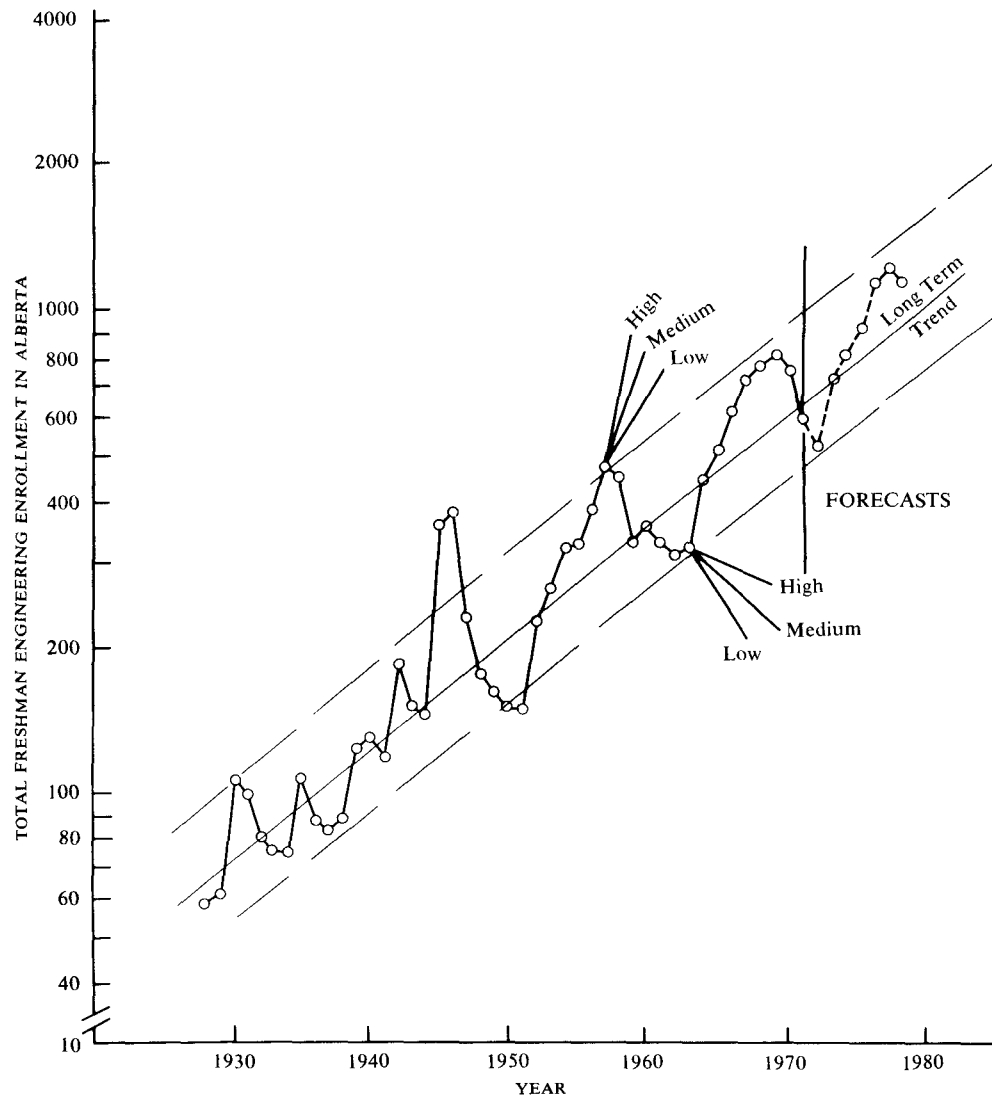


Figure 1 Box-Jenkins Time Series Analysis of Freshman Engineering Enrollment in Alberta

## APPENDIX IV

### LEVEL OF GOVERNMENT FORMULA SUPPORT FOR 1972-1973

(Universities Commission Document, Fall, 1972)

#### SUMMARY

The table below shows the levels of 1972-73 Government formula grant which result when various base year figures and

increase or "inflation" factors are combined. As can be seen, the formula grant varies from \$83.0 million to \$97.7 million depending on the assumptions used. This compares with the 1971-72 formula grant of \$84.5 million.

It should be noted that the basic assumption in this paper is that the total system 1972-73 enrolments and total enrolment units will be the same as 1971-72.

#### 1972-73 GOVERNMENT FORMULA OPERATING GRANT (IN \$000,000) AS CALCULATED USING VARIOUS BASE YEAR FIGURES AND INCREASE FACTORS

Base year figures		Increase or "inflation" factor (C)			
Base Year Formula Expenditures (A)	Base Year Total Enrolment Units (B)	1.05	1.07	1.10	1.12
1. Estimated actual 1971-72 formula expenditures for the universities (i.e., \$101,372,000).	Estimated actual 1971-72 total enrolment units (i.e., 60,800).	90.6	92.6	95.7	97.7
2. 1971-72 formula grant plus tuition (based on projected 1971-72 enrolments) and other income (i.e., \$101,506,000).	Projected 1971-72 total enrolment units (i.e., 65,600).	83.0	84.8	87.7	89.5

## I. INTRODUCTION

In this paper, the basic formula used to calculate the 1972-73 formula operating grant is:

1972-73 formula operating grant =

$$\frac{A}{B} \times C \times D - E$$

where:

A = Base year formula expenditures.

B = Base year total enrolment units (full-time plus part-time day, evening credit and summer session).

C = Increase or "inflation" factor.

D = Projected 1972-73 total enrolment units (full-time plus part-time day, evening credit and summer session).

E = Estimated 1972-73 tuition and other income excluding gifts and endowments.

The above formula is the one used last year by the Commission and reflects the approach used by the Commission over the past several years.

## II. VALUES OF A, B, C, D, AND E USED IN THIS PAPER

### A. ALTERNATIVE VALUES OF A—THE BASE YEAR FORMULA EXPENDITURES

The following two values of A will be used in this paper:

1. Estimated actual 1971-72 formula expenditures for the universities.

These are the figures submitted to the Commission recently.

	\$000
Alberta	\$ 65,893
Calgary	31,739
Lethbridge	3,740*
<b>TOTAL</b>	<b>\$101,372</b>

\*This figure is determined by subtracting the \$1,275,000 Lethbridge non-formula emergent grant from the \$5,015,000 expenditure figure shown in the Lethbridge submission.

2. Formula Government grant for 1971-72 plus tuition (based on the projected total system full-time enrolment of 31,350) and other income, excluding gifts and endowments.

	\$000
Formula Government grant	\$ 84,531
Tuition 31,350 × \$500*	15,675
Other income	1,300
<b>TOTAL</b>	<b>\$101,506</b>

\*The average total tuition per full-time student for the system was \$498 in 1969-70 and \$500 in 1970-71 so a figure of \$500 (to be used in this paper) seems reasonable.

### B. ALTERNATIVE VALUES OF B—THE BASE YEAR TOTAL ENROLMENT UNITS

1. Estimated actual 1971-72 total enrolment units.

The estimated 1971-72 full-time enrolments and total enrolment units as of December 1 (based on the October 1 submissions to the Commission) are as follows:

	Estimated full-time students for 1971-72 (1)	Estimated 1971-72 ratio of total* enrolment units per full-time student (2)	Estimated 1971-72 total* enrolment units (1 × 2)
Alberta	18,500	2.18	40,300
Calgary	9,300	1.98	18,400
Lethbridge	1,230	1.70	2,100
<b>TOTAL</b>	<b>29,030</b>		<b>60,800</b>

\*Total enrolment units include those generated by full-time, part-time day, evening credit and summer session students.

2. Projected total enrolment units for 1971-72, which were:

Alberta	42,500
Calgary	20,700
Lethbridge	2,400
<b>TOTAL</b>	<b>65,600</b>

### C. ALTERNATIVE VALUES OF C—THE INCREASE OR "INFLATION" FACTOR

This paper will use the following four factors for cost increase per total enrolment unit.

5% i.e., 1.05
7% i.e., 1.07
10% i.e., 1.10
12% i.e., 1.12

### D. VALUE FOR D—THE PROJECTED 1972-73 TOTAL ENROLMENT UNITS

An analysis by the Commission's financial officer indicated that a reasonable forecast for 1972-73 (given the uncertainty of the whole enrolment picture) would be that 1972-73 enrolments and total enrolment units will be the same as 1971-72, at least as regards the total system. Thus, the projected figures for 1972-73 used in this paper are:

Full-time enrolment	29,030
Total enrolment units	60,800

### E. VALUE FOR E—THE ESTIMATED 1972-73 TUITION AND OTHER INCOME, EXCLUDING GIFTS AND ENDOWMENTS

The figures used in this paper for total system 1972-73 tuition and other income are:

Tuition  $29,030 \times \$500$   
Other income

TOTAL

` \$14,500  
1,300  
\$15,800

### III. CALCULATION OF THE 1972-73 GOVERNMENT FORMULA OPERATING GRANT

The 1972-73 Government formula operating grant was calculated using the formula in section I and various combinations of the factors in section II. The resulting Government

grants are shown in the table included in the Summary section of this paper.

As a sample calculation, the \$90.6 million shown in the table was arrived at as follows:

$$\begin{array}{r} \$101,372,000 \\ \hline 60,800 \end{array} \times 1.05 \times 60,800 - \$15,800,000 = \$90,621,000$$

## **Comments by the Department of Advanced Education on Recommendations in "A Policy for the Long-Range Financing of Universities in Alberta"**

March 2, 1973

### **RECOMMENDATION 1**

That the inflation rate used in calculating university formula grants be determined by the percentage increase in the "All-items consumer price index for Canada" from July 1 to June 30 for the period preceding by two years the university fiscal period to which it has to apply.

#### *Comments:*

A consumer price index would be a reasonable index for determining the rate of inflation to be used in the formula grants. However, the 1974-75 grant could only be estimated at this time.

### **RECOMMENDATIONS 2 AND 3**

That, in addition to the inflationary changes, the expenditure index be allowed to change by a so-called plus factor, *p*, which will provide for two things: first, that people who work in universities may realize an expectation to obtain real dollar increases in their salaries when justified by real dollar increases in the economy of Canada, and secondly, that university costs may rise as a result of changes in the nature or quality of the functions performed for society.

That the plus factor, *p*, of the 1960's be cut by no more than 25%, and that it be fixed at 2.7%, or higher, for the next two or three years.

#### *Comments:*

The concept of a "*p*" factor appears reasonable. The rationale for choosing 2.7% is not clear and requires further information. The plus factor should not tie the Government to an arbitrary index thereby permitting no flexibility in establishing its priorities.

### **RECOMMENDATION 4**

(a) That "other income" not appear in calculations involved in calculating Government grants to the university system;

(b) That the method of payment used in the past to pay the Government grant to the university system remain as in the past; and

(c) That 1972-73 be considered as the base year and the expenditure index be set for that year as:

- (i) \$1,650 per enrolment unit for The University of Alberta
- (ii) \$1,670 per enrolment unit for the University of Calgary

#### *Comments:*

It appears reasonable to exclude "other

income" in calculating the formula grants on the assumption that little or no interest income is earned on advance payment of grants. 1972-73 could be used as a base year but the expenditure index should be as set out in the Government's proposal, the same for both universities.

We would require further clarification respecting the basis for treating the two universities differently.

### **RECOMMENDATION 5**

That, in the first instance, all calculations be made in the dollars of the base year.

#### *Comments:*

This proposal would aid in understanding the impact of inflation on tuition revenue. The basis for this proposal is not entirely clear.

### **RECOMMENDATION 6**

That once the total expenditures of the university system have been calculated, the formula grant of the Government should be given on the understanding that it will not be changed as long as enrolment units do not increase or decrease by more than 7.5%; if actual enrolment units are outside this range, measures will be introduced to allow a university to proceed to a higher or a lower plateau. The University of Calgary believes the enrolment tolerance should be 5%.

#### *Comments:*

We require further details of this proposal, that is, how to proceed to the higher or lower plateau. Are the universities willing to accept "under-formula" grants as well as "above-formula" grants?

### **RECOMMENDATION 7**

That for the years 1973-74 and 1974-75, an assumption of "no growth" be made for the university system.

#### *Comments:*

The no-growth assumption for 1974-75 seems reasonable as long as this means 58,900 enrolment units (essentially the Commission forecast for 1973-74).

### **RECOMMENDATION 8**

That if an "above-formula" grant is given for certain reasons it should not be reduced until the reasons for the grant no longer hold true; when these reasons cease to be valid then the grant should be reduced by approximately equal amounts over a period of five years.

#### *Comments:*

"Above-formula" grants largely relate to the question of the time period required for adjustments. What are the constraints which necessitate a five-year adjustment period.

### **RECOMMENDATIONS 9 AND 10**

That when the Government approves a new program at an existing institution, or a major expansion of an established program at an existing institution, or a new university, then an estimate should be made of the number of enrolment units involved when the new or expanded facility becomes fully operative; a value to the expenditure index should be assigned and the total Government support for the fully operative facility should thus be determined. That a major study of the support for the public service functions of universities and colleges be undertaken as soon as possible.

That until suitable weights are assigned for enrolments for all new programs, the present non-formula grant be treated as if it were part of the formula grant; it should be allowed to increase by the same percentage that the formula expenditures are allowed to increase.

#### *Comments:*

Phase-out period for all non-formula grants for new programs should be determined prior to initial funding of the program. Advantages of incorporating formula and non-formula grants are not understood. All non-formula grants including those presently existing should continue to be reviewed individually on an annual basis.

### **RECOMMENDATIONS 11 AND 12**

That until new plans can be formulated for The University of Lethbridge, this institution be divorced from the general procedures outlined for financing universities and that special arrangements be made for its financing.

That a five year plan be adopted for Athabasca University in accordance with the principles recommended in this document.

#### *Comments:*

Both Athabasca and Lethbridge will have to be examined on an individual basis. Whatever amount Lethbridge is to receive can be provided in several ways:

- (a) all out of the formula grants
- (b) all out of non-formula grants
- (c) or some combination of the above.

Athabasca will be funded from non-formula grants.

